REMARKS

Reconsideration of the present application is respectfully requested. Claims 1-52 were pending. Claims 1 and 41 have been amended without adding any new matter. No claims have been added or cancelled. Thus, claims 1-52 remain pending.

The Examiner rejected claims 1-40 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Applicants respectfully disagree and submit that one skilled in the art would reasonably understand that the Applicants were in possession of the claimed subject matter, at the time the application was filed. "The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement" (MPEP § 2163.02).

The Applicants' Specification discloses a "method [that] applies a relatively-fast compression technique (i.e., stage 1 compression) to temporarily compress at least some of the digital images upon capture, so as to increase availability of storage in said image buffer for storing other digital images being captured." (Specification, page 12, lines 14-18). One reasonably skilled in the art would understand that "at least some of the digital images" defines a subset of the digital images being captured. Thus, the Specification supports a subset of captured images being temporarily compressed. Therefore, the Applicants respectfully request withdrawal of the rejection of claims 1-40 under § 112, first paragraph.

The Examiner rejected claims 1, 2, 5-7, 12, 13, 15-21, 24, 29-34, 38-39, 41-42, 45-47, and 52 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No.

6,463,177 (hereinafter "Li") in view of U.S. Patent No. 6,020,920 (hereinafter "Anderson1"). The Applicants respectfully disagree.

Li describes dynamically changing the size of compressed images based on the number of images stored in a camera (Li, column 1, lines 40-47). The size of stored images are reduced by truncating the least significant portions of the images' bitstreams in order to make room for a newly captured image (Li, column 2, line 60 to column 3, line14). Thus, the system dynamically changes the compression ratio of an image by simply deleting the least significant portion of an image's bitstream.

Anderson1 describes a method and system for displaying pictures on an image capture device's graphical user interface (Anderson1, column 2, lines 35-54). Images are organized within speculation buffers based on a scrolling method of a user and displayed on the graphical user interface (Anderson1, column 2, lines 35-54). The system described by Anderson1 includes a DRAM for storing images utilized by the speculation buffers (Anderson1, Column 4, lines 34-43).

Claim 41, as amended, recites:

> A digital camera device with improved latency time between acquiring pictures, the device comprising:
> an image buffer to store digital images;
> a user-activated button, integrated into the digital camera device, for generating a user request to capture a sequence of digital images at the digital camera device, said sequence of digital images being stored in the image buffer upon capture;
> a first compression module, embodied within the digital camera device, for temporarily compressing at least some of the digital images from the sequence of digital images upon capture, thereby freeing up available storage in said image buffer;
> a buffer to store a temporarily compressed image;
> a decompression module, embodied within the digital camera device, for decompressing the digital images that were temporarily compressed at some point in time after activation of said user-activated button; and

> a second compression module, embodied within the digital camera device, for compressing the decompressed digital images that were temporarily compressed more thoroughly than that provided by said first compression module, prior to storing the image in a non-volatile memory.

The Examiner asserts that Li teaches "a second compression module, embodied within the digital camera device ..." (Office Action, page 4, lines 4-7 *citing* Li, column 3, lines 1-14). However, Li recites:

> Because the images #1, #2 and #3 are encoded into embedded bitstreams, each image can be arbitrarily truncated at the end to make room for additional images. To change compression ratios using other compression techniques, the stored images would first have to be decoded, then requantized and then reencoded at the higher compression ratio. The recompressed images would then have to be restored into memory 12. The embedded encoding technique described above allows less complex memory management system to dynamically allocate memory for new images. (Li, Column 3, lines 4-14).

The image processing technique described in Li includes a memory management system that arbitrarily truncates image bitstreams to allow more images to be stored in a single memory. Li explicitly notes that "other compression techniques" do not apply the truncation method of Li which allows for less complexity than the "other compression techniques." Therefore, not only does the digital camera of Li not include a compression technique, other than bitstream truncation, but Li explicitly teaches away from including multiple compression techniques.

Anderson1 teaches a user interfaces for displaying pictures on a digital image capture device, without discussing any form of compression module. Therefore, Li and Anderson1, alone or in combination, fail to teach or suggest a digital camera including "a second compression module, embodied within the digital camera device, for compressing the decompressed digital images that were temporarily compressed more

thoroughly than that provided by said first compression module, prior to storing the image in a non-volatile memory." Thus, the combination of Li and Anderson1 fail to render obvious claim 41 along with its dependent claims.

Claim 1 as amended recites:

> A method for compressing digital images upon capture at a digital camera device, the method comprising:
> receiving user input requesting capture of a sequence of digital images at the digital camera device, said digital images being stored in an image buffer;
> applying a relatively-fast compression technique to temporarily compress a subset of the digital images upon capture, so as to increase availability of storage in said image buffer for storing other digital images being capture;
> at some point in time after cessation of the user input, decompressing the subset of the digital images that were temporarily compressed; and thereafter
> applying a relatively-thorough compression technique to the decompressed subset of the digital images.

As discussed above, with respect to claim 41, neither Li nor Anderson1, alone or in combination, teach or suggest a second compression technique for more thoroughly compressing previously compressed images. Therefore, neither reference, alone or in combination, teaches or suggests "applying a relatively-thorough compression technique to the decompressed subset of the digital images." The Applicants respectfully submit that claim 1 and its dependent claims are not rendered obvious by Li in view of Anderson1.

The Examiner rejected claims 3-4, 11, 43-44 under 35 U.S.C. § 103(a) as being unpatentable over Li in view of Anderson1, and further in view of U.S. Patent No. 5,790,878 (hereinafter "Anderson2").

Anderson2 discloses a "system and method for recovering from a power failure in a digital camera comprises a power manager for detecting power failures, an interrupt handler for responsively incrementing a counter device, service routines which register to receive notification of the power failure, and a processor for evaluating the counter and providing notification of the power failure to the service routines which then assist the digital camera to recover from the power failure" (Anderson2, Abstract). However, Anderson2 does not discuss compression, or compression modules.

Therefore, Anderson2 fails remedy the shortcomings of Li and Anderson1 discussed above with respect to claims 1 and 41. Claims 3, 4, and 11 include the limitations of claim 1 by virtue of being dependent on claim 1. Claims 43 and 44 include the limitations of claim 41 by virtue of being dependent on claim 41.

Therefore, claims 3-4, 11, and 43-44 are patentable over the combination of Li, Anderson2, and Anderson1 for at least the reasons articulated with respect to claim 1 and 41, respectively.

The Examiner rejected claims 8-10, 14, 40, and 48-51 under 35 U.S.C. §103(a) as being unpatentable over Li in view of Anderson1, and further in view of U.S. Patent No. 6,104,430 (hereinafter "Fukuoka").

Fukuoka discloses "a digital electronic camera which can accept various types of input/output cards or memory cards" (Fukuoka, Abstract). However, Fukuoka does not discuss compression, or compression modules.

Therefore, Fukuoka fails remedy the shortcomings of Li and Anderson1 discussed above with respect to claims 1 and 41. Claims 8-10, 14, and 40 include the limitations of claim 1 by virtue of being dependent on claim 1. Claims 48-51 include the

limitations of claim 41 by virtue of being dependent on claim 41. Therefore, claims 8-10, 14, 40, and 48-51 are patentable over the combination of Li, Anderson2, and Fukuoka for at least the reasons articulated above with respect to claims 1 and 41, respectively.

The Examiner rejected claims 22-23, 25-26, and 36-37 under 35 U.S.C. § 103(a) as being unpatentable over Li in view of Anderson1, and further in view of U.S. Patent No. 6,154,493 (hereinafter "Acharya1").

Acharya1 discloses "a method that includes splitting raw image data into a plurality of channels including color plane difference channels, and then compressing separately each of these channels using a two-dimensional discrete wavelet transform" (Acharya1, Abstract). However, Acharya1 does not discuss a second compression module or a second compression technique, but rather discusses only a single compression technique.

Therefore, Acharya1 fails remedy the shortcomings of Li and Anderson1 discussed above with respect to claims 1 and 41. Claims 22-23, 25-26, and 36-37 include the limitations of claim 1 by virtue of being dependent on claim 1. Therefore, claims 22-23, 25-26, and 36-37 are patentable over the combination of Li, Anderson2, and Acharya1 for at least the reasons articulated with respect to claim 1.

The Examiner rejected claims 27-28 and 35 under 35 U.S.C. §103(a) as being unpatentable over Li in view of Anderson1, and further in view of U.S. Patent No. 6,195,026 to Acharya (Acharya2).

Acharya2 discloses "A method comprising entropy encoding into bits a set of data values, and packing into storage the entropy encoded bits by reversing the bits of words with unknown length and keeping in blocks the words with known lengths. For

instance, in an entropy encoded data set that uses both Huffman coding and zero run coding, the class code may be reversed in bit order from right to left rather left to right while the words of known length such as the zero run code and Huffman pointer are stored left to right in blocks." (Acharya2, Abstract).

However, Acharya2 does not discuss a second compression module or a second compression technique, but rather discusses only a single compression technique.

Therefore, Acharya2 fails remedy the shortcomings of Li and Anderson1 discussed above with respect to claims 1 and 41. Claims 27-28 and 35 include the limitations of claim 1 by virtue of being dependent on claim 1. Therefore, claims 27-28 and 35 are patentable over the combination of Li, Anderson2, and Acharya2 for at least the reasons articulated with respect to claim 1.

If a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Judith Szepesi at (408) 720-8300.

If there are any additional charges/credits, please charge/credit our deposit account no. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Judith A. Szepesi
Reg. No. 39,393

Customer No. 08791
12400 Wilshire Blvd.
Seventh Floor
Los Angeles, CA 90025
(408) 720-8300